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I. L. KNUNYANTS'S WORK ON HETEROCYCLIC COMPOUNDS, FLUORO-ORGANIC COMPOUNDS, ALKANOLPHOSPHINES, AND OTHER SUBSTANCES

I. L. Knunyants was elected Member of the Academy of Sciences USSR, in the speciality of organic chemistry, at a meeting of the academy held on 23 October 1953.

Knunyants is one of the most prominent specialists in the chemistry of heterocyclic compounds. Of particular importance is his work on pyridine derivatives, in connection with which he developed several elegant syntheses, including those of pyridine analogs of Michler's ketone, hydrol (tetramethyldiaminobenzhydrol), and dyestuffs of the triphenylmethane type. In the field of dyestuff chemistry, the work done by Knunyants on the synthesis of carbocyanine dyestuffs that are being applied practically is of particular value. Of substantial importance is his work on an original method for the synthesis of gamma-acetopropyl alcohol. a substance which is necessary for the synthesis Of substantial importance is his work on an original method for the synthesis of gamma-acetopropyl alcohol, a substance which is necessary for the synthesis of quinacrine and plasmoquine. The results of this work are already being applied industrially. Research by knunyants on the rission of organic oxides led, among other achievements, to the synthesis of ethylenefluorohydria, and the development of the latter synthesis in turn made possible the synthesis of numerous fluoro-organic compounds. An analogous fission of ethylene thiooxide served as the basis for the synthesis of aminomercaptoethylenes, which form the starting materials for the preparation of analogs of some antibiotics.

Into a somewhat different pattern fall the investigations done by Knunyants on the structure of the antimalarial drugs -- plasmocid, plasmoquine, and quinacrine -- which culminated in the development of methods for the synthesis of these drugs. In connection with the syntheses of plasmoquine and quinacrine, introduction of the side chain is of particular importance. Knunyants is without doubt the foremost specialist in the field of antimalarial substances.

Knunyants was elected Corresponding Member of the Academy of Sciences USSR in 1946. During a comparatively short period he published more than 25 papers on original investigations. Among the investigations carried out by him, those on the following subjects are of importance: introduction of fluorine into organic compounds; the synthesis of alkanolphosphines; the Beckmann rearrangement

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of complex oximes, such as those of ionone, tetralenes, and cyclic ketones in general; the chemistry of caprolactam; and the polymerization of fluoro-olefines and unstable cyclic compounds together with work on the synthesis of other highmolecular compounds. Of outstanding importance is the work done by Knunyants on the addition of hydrogen sulfide, and mercaptanese to olefins: the results of this work are of great significance for the synthesis of many physiologically and pharmacologically active substances. In addition to doing experimental work, ticularly in the field of the theory of structure.



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